

Aga Khan Academy, Hyderabad

SCHEME OF WORK

(Scope and Sequence)

GRADE – 12 Chemistry (SL/HL)

**ACADEMIC YEAR: 2012-2013**

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| **Teacher:** | Jaydip Chaudhuri | **Subject:** | Chemistry-HL |

| **Cycle and date** | **Topic &**  **Sub topics** | **Learning Outcomes** | **Teaching activities / Integration of ICT components** | **Assessment Summative / formative** | **Differentiated activities /SEN** | **Course work / practical component** | **Resources** |
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| **Cycle:1**  1st- 8th August | Revision and IAs | Understanding various criteria under IA and how to submit a report using PSOW/4 | Teaching using worksheet on  Classroom pop quiz is conducted. | Regular assessment using classroom activity and worksheet | Differentiation to the SL students was done by simplification of the worksheets. Students were provided with the definitions of the keywords used, and are given extra on-class support. | Understanding the D, DCP and CE and PS and MS. Rules of the practical lab | Worksheets  IB-data booklet  IB course companion  Laboratory equipment |
| **Cycle:2**  9th- 17th August | Chemical equilibrium | Understanding dynamic equilibrium, Kc and factors | Teaching using worksheet on on IB SAT questions | Regular assessment using classroom activity and worksheet | **D**: enthalpy change of a reaction | Worksheets  IB-data booklet  IB course companion  Laboratory equipment |
| **Cycle:3**  18th -28th August | Chemical equilibrium | Case study of Haber, contact process and phase equilibrium | Classroom pop quiz is conducted on multiple choice questions | FAT -class test | **DCP**and **CE**: determination of enthalpy change for the reaction between Zn and Cu(II) ion | Worksheets  IB-data booklet  IB course companion  Laboratory equipment |
| **Cycle:4**  29th -6th Sept | Acid base equilibrium | Understanding various definitions of acid base and scale of measurement | Teaching using worksheet on on IB MCQ questions | Regular assessment using classroom activity and worksheet | **DCP**and **CE**: Study of redox reaction | Worksheets  IB-data booklet  IB course companion  Laboratory equipment |
| **Cycle:5**  7th-15th Sept | Acid base equilibrium | Understanding Kw, Ka, Kb, pKa, pKb, their relationship and buffer solution | Classroom pop quiz is conducted on IB MCQ questions | FAT-1 completed | **DCP and CE**: determination of vitamin c in a vitamin C tablet | Worksheets  IB-data booklet  IB course companion  Laboratory equipment |
| **Cycle:6**  16th -25th Sept | Redox equilibrium | Understanding redox, oxidation number, redox in terms of electron and oxidation number | Classroom pop quiz is conducted | Regular assessment using classroom activity and worksheet | **DCP**and **CE**: standardizing a solution of potassium permanganate | Worksheets  IB-data booklet  IB course companion  Laboratory equipment |
| **Cycle:7**  26th -3rd October | Redox equilibrium | Electrochemical cell and electrolysis of molten solid electrolyte | Worksheet given and quiz conducted on physical periodic properties | Regular assessment using classroom activity and worksheet | **DCP**and **CE**: determination of chlorine atom in a sample of bleach | Worksheets  IB-data booklet  IB course companion  Laboratory equipment |
| **Cycle:8**  4th-12th October | Redox equilibrium | Electrolysis of aqueous electrolytes, standard electrode potential, SHE, and feasibility of rxn | Worksheet given and quiz conducted on chemical periodic properties | Regular assessment using classroom activity and worksheet | **DCP**and **CE**: determination of molar mass of aspirin | Worksheets  IB-data booklet  IB course companion  Laboratory equipment |
| **Cycle:9**  13th-20th October | Option A | Mass spectroscopy and analysis of mass spectrum of metals, diatomic molecule and halogenated compounds. | Worksheet given and quiz conducted on intermolecular forces | FAT class test will be conducted | **DCP**and **CE**: electrochemical cell | Worksheets  IB-data booklet  IB course companion  Laboratory equipment |
| **Cycle:10**  21st -7th Nov | Option A | Infra-red spectroscopy and infrared spectrum  And analysis of unknown compound | Classroom pop quiz is conducted on intra-molecular co | Regular assessment using classroom activity and worksheet | **D:**  factors affecting solubility of a salt | Worksheets  IB-data booklet  IB course companion  Laboratory equipment |
| **Cycle: 11**  8th-16th Nov | Option A | NMR spectroscopy and NMR data to analyze and decode complex molecular structure | IB questions solved and quiz conducted on shape | FAT-2 completed | **D**: determination of rate escape of CO2 from soda water | Worksheets  IB-data booklet  IB course companion  Laboratory equipment |
| Cycle:12  17th -8th Dec | Revision |  |  |  |  |  |
| Cycle: 13  9th- 15th Dec | Exam week |  |  |  |  |  |  |